

Neue und interessante Milben
aus dem Genfer Museum XXXIII.¹

Recent data on the Oribatid fauna of Greece
(Acari: Oribatida)

by

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With 26 figures

ABSTRACT

New and interesting mites in the collections of the Geneva Museum XXXIII. Recent data on the Oribatid fauna of Greece.—Greek soil samples (from the islands of the Aegian Sea and the Peloponnesus) yielded 33 Oribatid species of which 6 proved to be new to science: *Hauseroplophora phitosi* n. sp., *Nellacarus hellenicus* sp. n., *Zetorchestes phyllosetus* sp. n., *Rhaphigneta flagellata* sp., *Passalozetes hauseri* sp. n., and *Schelobates xylobatoides* sp. n. The new genus *Salpasozetes* is erected for *Scutovertex bidactylus* Coggi. Distribution area of several species have been significantly altered by this new data.

Dr. B. Hauser, curator of Arthropodes in the Geneva Museum d'Histoire naturelle, has been working on the soil and cave fauna of the eastern Mediterranean region, primarily that of Greece. The samples have been extracted by the use of the Berlese apparatus (soil, litter, moss, etc.) and also by the use of Moczarsky-Winkler apparatus. In the past years a huge quantity of mite material has been accumulated and partly described by me in various articles. The present contribution deals with the material collected in 1975 in the Peloponnesus and the islands of the Aegian Sea.

The detailed analysis of the material yielded 33 species, among them 6 are new to science. The distribution area of several species collected have significantly altered our knowledge concerning boundaries, and of course all these species are new to the

¹ XX. Contribution to the Oribatid Fauna of S.E. Asia (Acari, Oribatida). (*Revue suisse Zool.* 84: 247-274, 1977).

fauna of Greece. Special mention should be made of two species: *Protoplophora bivaginata* Grandjean, 1932 and *Ghilarovus humeridens* Krivolutsky, 1964, which have been known only from their *locus typicus*.

Hereby I would especially like to thank Dr. B. Hauser for giving me the opportunity to study his very valuable material.

LIST OF LOCALITIES

- Hel-75/1 : PELOPONNESE: au bord de la route de Krestena à Andritsena, 230 m. prélèvement de terre sous *Acer monspessulanum*, (B), 19.IV.1975
- Hel-75/5 : PELOPONNESE: route de Andritsena à Bassae, prélèvement de terre sous *Quercus coccifera*, (B), 1170 m., 20.IV.1975
- Hel-75/7 : PELOPONNESE: près du temple Bassae, prélèvement de terre sous *Quercus (sessiliflora?)*, (B), 1130 m., 20.IV.1975
- Hel-75/9 : PELOPONNESE: route de Bassae à Perivolía, prélèvement de terre sous *Quercus coccifera*, (B), 980 m., 20.IV.1975
- Hel-75/23: ICARIE: au bord de la route vers Oxea, tamisage sous *Quercus coccifera*, (W), 490 m. 23.IV.1975
- Hel-75/34: SAMOS: tamisage sous *Pinus* sp. près du sommet du mont Gournis, (W), env. 900 m., sol non calcaire, 25.IV.1975
- Hel-75/35: SAMOS: prélèvement du sol près du sommet du mont Gournis sous *Pinus* sp. et *Quercus coccifera*, (B à Genève), env. 900 m. sol non calcaire, 25.IV.1975
- Hel-75/53: EPIRE: versant est du col de Metsovon, 1400 m., prélèvement de terre sous *Pinus nigra*, (B à Genève), 30.IV.1975

LIST OF THE IDENTIFIED SPECIES

Prothoplophoridae Ewing, 1917

Hauseroplophora phitosi sp. n.

Protoplophora bivaginata Grandjean, 1932

Locality: Hel-75/1

Cosmochthoniidae Grandjean, 1947

Cosmochthonius emmae Berlese, 1910

Locality: Hel-75/1

Cosmochthonius lanatus (Michael, 1887)

Locality: Hel-75/1

Haplochthoniidae Hammen, 1959*Haplochthonius simplex* Willmann, 1930

Locality: Hel-75/1

Sphaerochthoniidae Grandjean, 1947*Sphaerochthonius splendidus* (Berlese, 1904)

Localities: Hel-75/1; Hel-75/35

Brachychthoniidae Balogh, 1943*Liochthonius perpusillus* (Berlese, 1910)

Locality: Hel-75/9

Synchthonius crenulatus (Jacot, 1938)

Locality: Hel-75/5

Perlohmanniidae Grandjean, 1958*Perlohmannia dissimilis* (Hewitt, 1908)

Locality: Hel-75/1

Epilohmannidae Oudemans, 1923*Epilohmannia cylindrica cylindrica* (Berlese, 1904)

Localities: Hel-75/1; Hel-75/7

Epilohmannia cylindrica minima Schuster, 1960

Locality: Hel-75/5

Collohmanniidae Grandjean, 1969*Collohmannia gigantea* Sellnick, 1922

Locality: Hel-75/34

Gymnodamaeidae Grandjean, 1954*Aleurodamaeus setosus* (Berlese, 1883)

Localities: Hel-75/23; Hel-75/35

Cepheidae Berlese, 1896*Cepheus latus* C. L. Koch, 1836

Localities: Hel-75/23; Hel-75/36

Eupterotegaeus ornatissimus (Berlese, 1908)

Locality: Hel-75/23

Microzetidae Grandjean, 1936*Nellacarus hellenicus* sp. n.**Ctenobelbidae** Grandjean, 1965*Ctenobelba mahnerti* Mahunka, 1974

Locality: Hel-75/1

Zetorchestidae Michael, 1898*Microzetorchestes emeryi* (Coggi, 1898)

Locality: Hel-75/7

Zetorchestes mycronychus (Berlese, 1883)

Locality: Hel-75/1

Zetorchestes phyllosetus sp. n.**Carabodidae** C. L. Koch, 1837*Carabodes minusculus* Berlese, 1923

Locality: Hel-75/1

Oppiidae Grandjean, 1954*Oppia concolor* (C. L. Koch, 1844)

Locality: Hel-75/53

Oppia decipiens (Paoli, 1908)

Localities: Hel-75/1; Hel-75/35

Oppia minutissima Sellnick, 1950

Locality: Hel-75/7

Autognetidae, Grandjean, 1960*Rhaphigneta flagellata* sp. n.**Cymbaeremaeidae** Sellnick, 1928*Cymbaeremaeus cymba* (Nicolet, 1855)

Locality: Hel-75/7

Passalozetidae, Grandjean, 1954*Passalozetes hauseri* sp. nov.**Zetomotrichidae** Grandjean, 1943*Ghilarovus humeridens* Krivolutsky, 1964

Localities: Hel-75/1; Hel-75/7

Oribatulidae Thor, 1929*Scheloribates xylobatoides* sp. n.**Mycobatidae** Grandjean, 1954*Minunthozetes semirufus* (C. L. Koch, 1841)

Locality: Hel-75/36

Galumnidae Jacot, 1925*Pilogalumna allifera* Oudemans, 1919

Localities: Hel-75/5, Hel-75/53

DESCRIPTION OF THE NEW TAXA

Hauseroplophora phitosi sp. n. (Fig. 1-3)Measurements. Length: 217 μ , width: 181 μ .

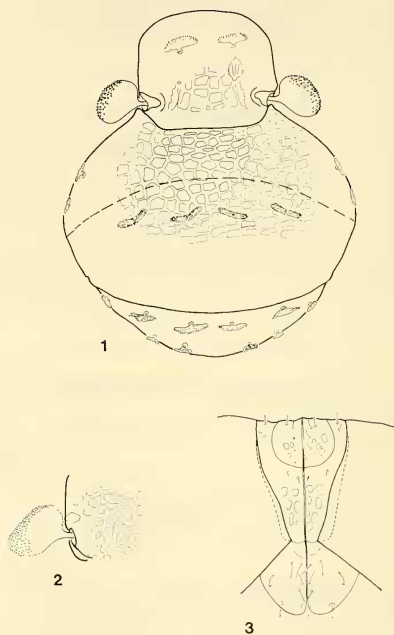
Prodorsum (Fig. 1): Broadly rounded, surface with polygonal sculpture. Interlamellar region with 1 robust, longitudinal chitinized lath. Hairs broadened, characteristic for genus; rostral and lamellar hairs branching T-like, interlamellar one phylliform. Sensillus (Fig. 2) extraordinarily large, flat, lamellately broadened. Surface densely aciculated.

Ventral (Fig. 3): Genital plate approximately pentagonal in outline, bearing 9 (?) pairs of comparatively long hairs. Anal slit broad, somewhat broader than long. Plates bearing 5 pairs of minute hairs. Adanal plate bearing 4 pairs of slightly longer hairs. Surface of anal plate adorned with larger foveolae, while sculpture of adanal plates identical with that of remaining body surface.

Legs: All legs bearing tridentate claws, heterodactylia pronounced. Claws of all legs shorter than tarsus.

Material examined: Holotype: Hel-75/1, deposited in the Museum d'Histoire naturelle (Genève).

Remarks: Heretofore we have only known the recently described type of the genus *Hauseroplophora* Mahunka, 1977, originating from Kenya. The new species differs from the type-species of the genus by its much broader and larger sensillus as well as the shape of the anal and adanal plate, and their proportions.



FIGS. 1-3.

Hauseroplophora phitosi sp. n.

1. dorsal side; 2. sensillus; 3. anogenital region.

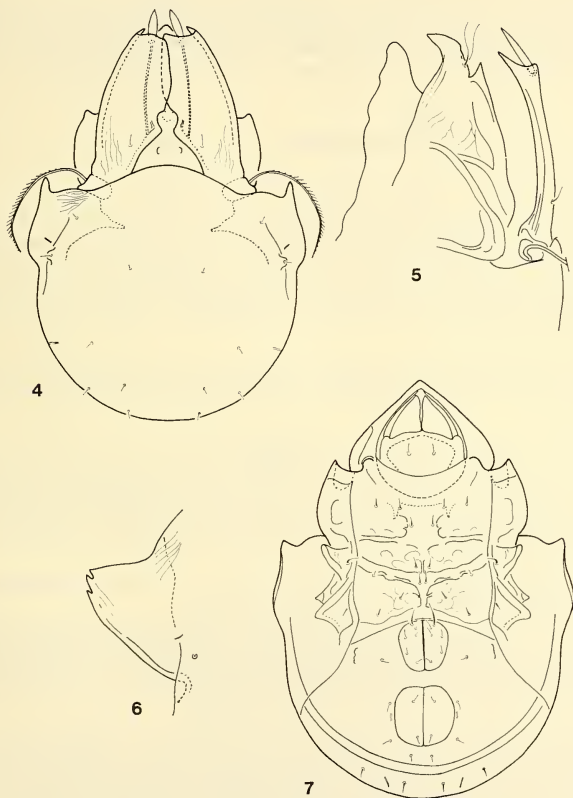
***Nellacarus hellenicus* sp. n. (Fig. 4-7)**

Measurements: Length: 231-240 μ , width: 149-161 μ .

Prodorsum (Fig. 4): Rostrum broad, approximately triangular in shape. Rostral hairs originating close to each other in front of tutorium (Fig. 5), they are thin and simple. Lamellae extraordinarily broad, in the middle overlapping each other, then suddenly becoming concave and diverging from each other. Rostral apex broad, perceptible in

dorsal view, cuspis scarcely or not at all concave, outer margin with short tooth, inner margin without tooth. Lamellar hair strongly thickened, spindle-shaped. Small, simple interlamellar hair originating on lamellae. Sensillus as characteristic for genus, setiform, laterally pointing backwards, outer side with densely set, comparatively long ciliae.

Notogaster: *Pteromorphae* large, in dorsal view with forward projecting lateral margins. In lateral view (Fig. 6) approximately triangular in outline, margin with 3-4 very large teeth. *Notogaster* with some transversal creases behind bothridium. *Notogastral* hairs simple, small (9 pairs); *te* hair sitting on a small chitinized papilla.



FIGS. 4-7.

Nellacarus hellenicus sp. n.

4. dorsal side; 5. notocephale from lateral side; 6. pteromorpha from lateral side; 7. ventral side.

Ventral: (Fig. 7): Surface of epimere with some large, irregularly shaped aerola. Sejugal and 4th apodemes very pronounced, even the 2nd well developed. Epimeral hairs short, robust, almost spiniform. Epimeral setal formula: 3-1-3-3. Genital plate bearing 6 hairs, first much stronger than others. 1 pair of aggenital, 2 pairs of anal and 3 pairs of small adanal hairs.

Material examined: Holotype: Hel-75/5, 6 paratypes: with same locality data as for holotype. The holotype and 4 paratypes are deposited in the Museum d'Histoire naturelle (Genève), 2 paratypes in the Hungarian Natural History Museum, Budapest (No. 113-PO-76).

Remarks. — The new species stands closest to *Nellacarus asiaticus* Krivolutsky, 1975 described from Tadzhikistan in the Soviet Union. But the lamellae of this species are much larger, reaching well beyond apex of rostrum, lamellar hairs being simple and thin. Pteromorphae on their outer sides are smooth and without denticles.

Zetorchestes phyllosetus sp. n. (Fig. 8-11)

Measurements. — Length: 470-521 μ , width: 340-386 μ .

Prodorsum (Fig. 8): Entire surface of body covered by a crust of secretions, beneath this crust cerotegumen with characteristic thin, branching creases. Lamellae long, running close to body margin, lamellar hairs emitted from apices, hairs thin and simple. Rostral hairs (Fig. 10) sitting on short chitinated papillae, characteristic for genus. Sensillus (Fig. 9) short, spatulate. Interlamellar hair comparatively long, slightly thickened, heavily ciliate.

Notogaster: Small tegula present, behind it runs a crest-like keel. Ten pairs of notogastral hairs phylliform, resembling a peachleaf; surface thickly beset with ciliae. Hairs ps_1 - ps_3 shorter than others, nevertheless phylliform. In the middle a very large medial pore.

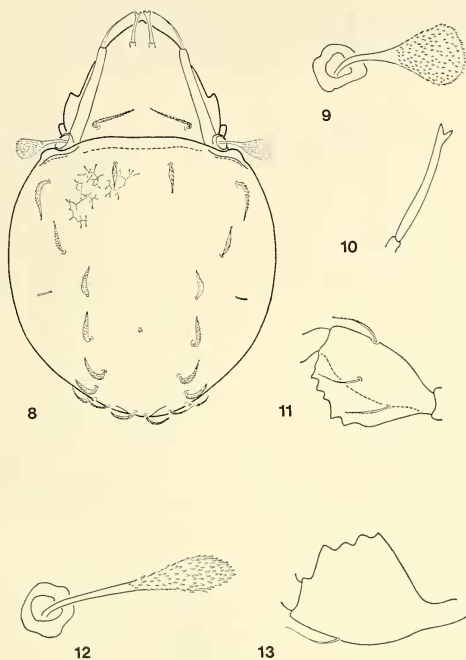
Ventral: Apodemes short, weakly developed, only 2nd, sejugal and 3rd apodeme (this latter only partly) discernible. Surface thickly covered by secretion. Beneath this in epimeral region a polygonal sculpture perceptible. Genital and anal plates bordered by chitinated keels. Six pairs of short, simple genital hairs, 2 pairs of anal and 2 (?) pairs of adanal hairs present.

Legs: One-claved animal. Femur of 2nd leg (Fig. 11) with a multidentated plate. Shape of denticles variable.

Material examined: Holotype: Hel-75/7; 27 paratypes: from same locality as holotype. Further 6 paratypes: Hel-75/36. Holotype and 20 (17+3) paratypes deposited in the Museum d'Histoire naturelle (Genève), 12 (10+2) paratypes in the Hungarian Natural History Museum, Budapest (No. 114-PO-a-b-76).

Remarks. — The genus *Zetorchestes* Berlese, 1888 is one of the most problematic genera including quite a number of species awaiting elucidation within the large group of Oribatida. GRANDJEAN (1951) gave a detailed analysis of the group besides EYNDHOVEN (1942), who summarized the knowledge accumulated to that date. Nevertheless, the type-species of the genus is still not defined, since the figures published either by BERLESE or WILLMANN (1931) have been in current use for identification, unfortunately, the form of the dorsal setae are not unequivocally represented. On the other hand, on the basis of the shape of sensillus KRIVOLUTSKY (in: GHILJAROV & KRIVOLUTSKY 1975) obviously

regarded another species to be *Z. micronychus*. The question may be settled for certain only after a close study of the types, until then we should follow in the footsteps of WILLMANN (Fig. 12-13). This species occurs throughout Europe excepting the northern parts.



FIGS. 8-13.

Zetorchestes phyllosetus sp. n.

8. dorsal side; 9. sensillus; 10. rostral seta; 11. femur of leg 4.

Zetorchestes micronychus (Berlese, 1883).

12. sensillus; 13. femur of leg 4.

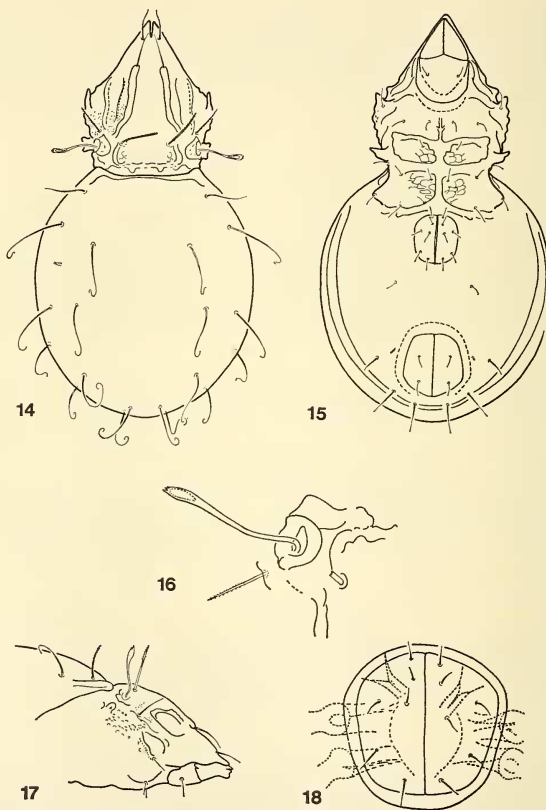
The above-described species from Greece, collected by Dr. B. Hauser, clearly differs from all other heretofore known European species, since it is very unlikely that earlier descriptions would have lacked this striking feature of the phylliform hairs.

OUDEMANS mentioned one species from Ceylon (*Z. saltator* Oudemans) that also has phylliform notogastral setae, but this latter species has a very long and narrow sensillus.

***Rhaphigneta flagellata* sp. n. (Fig. 14-18)**

Measurements. — Length: 456-483 μ , width: 249-272 μ .

Prodorsum (Fig. 14): Apex of rostrum divided into two by a long slit. Rostral hair originating at its basal end, being shorter than lamellar hairs. Costulae broad, apex rounded. Interlamellar region with an arcuating chitinized thickening, long, rigid and truncate interlamellar hairs originating on its end. Interlamellar hair very long,



FIGS. 14-18.

Rhaphigneta flagellata sp. n.

14. dorsal side; 15. ventral side; 16. trichobothrium; 17. notocephale from lateral side; 18. genital plate.

straight and ciliate. Apex of sensillus (Fig. 16) weakly thickened like a spindle bearing 3-4 teeth of various lengths. Basal portion of prodorsum with a transversal thickening bearing 2 (frequently 3-4 teeth of different shapes) teeth. Side of prodorsum adorned with a sculpture characteristic for the genus.

Notogaster: 10 pairs of long notogastral setae present. Hair *ta* shorter and thicker than others, apex truncate and more ciliate (Fig. 17). Distal apex of others suddenly attenuating and recurving like a hook. Hairs *ps* at body end resembling a whip, not shorter than hairs *r*.

Ventral (Fig. 15): Surface of epimeres with areolae of various sizes. Epimeral setal formula 3-1-3-3. Genital plate bearing 6 hairs. Genital papillae characteristic for the genus, *Va*¹ directing towards proximal body end, not parallel with *Vm* and *Vp* (Fig. 18). 1 pair of aggenital, 2 pairs of anal and 3 pairs of adanal hairs present. Hair *ad*₃ emitted far from anal plate, always behind *iad* pori (towards body end). Hairs *ad*₁ and *ad*₂ twice the length of *ad*₃.

Material examined: Holotype: Hel-75/35; 20 paratypes: collected at the same locality. Further 5 paratypes: Hel-75/34. The holotype and 15 (12 + 3) paratypes deposited at the Museum d'Histoire naturelle (Genève), 10 (8 + 2) paratypes in the Hungarian Natural History Museum, Budapest (No. 115-PO-a-b-76).

Remarks: — Heretofore we have known the type-species (*R. numidiana* Grandjean, 1960) of the genus *Rhaphigneta* Grandjean, 1960. The new species stands close to it, although *R. numidiana* has shorter notogastral setae whose apex never recurves like a whip. Hairs *p*₃ and *p*₃ displaying important differences in their lengths (one is twice as long as the other). The hairs *ad*₃ of type-species are emitted before *iad* or being close to the anal plate.

PASSALAZETIDAE Grandjean, 1954

This family so far has included only one genus, *Passalozetes* Grandjean, 1932. Even at the time of the erection of this genus it was obvious that the author ranked two distinct species groups into one genus, but at that time it would have been far fetched to segregate them into two genera owing to the small number of species. MIHELČIČ described a species from Spain (*P. hispanicus* Mihelčič, 1955) which was very similar to the type-species of the genus: *P. africanus* Grandjean, 1932. The former species since then has been shown to occur in the Soviet Union, and a redescription of it by PEREZ-INOIGO (1971) elucidated the true relationship of the two taxa. MIHELČIČ also described in this genus a species: *P. inlenticulus* Mih., 1959 from Austria whose lenticulus is only weakly developed. A close ally came forward from Greece, and this new species again indicates that the two species groups segregate readily into two distinct genera each, having several characteristics of their own. Owing to this fact I decided to describe a new genus for one of the species groups.

Salpasozetes gen. n.

Diagnosis. — Habitus that of *Passalozetes*. Sensillus long, thin, setiform, smooth. Legs bearing two claws.

¹ Cf. GRANDJEAN (1960): p. 581, Fig. 2.

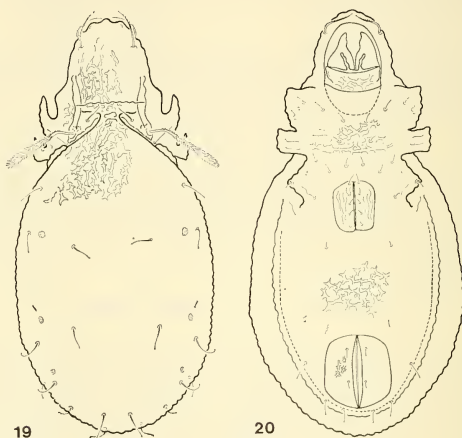
Type-species: *Scutovertex bidactylus* Coggi, 1900

Remarks. — All the species belonging to the genus of *Passalozetes* Grandjean have thickened, heavily ciliate sensillus, and bear three claws on all legs.

***Passalozetes hauseri* sp. n. (Fig. 19-20)**

Measurements. Length: 307-321 μ ; width: 146-162 μ .

Prodorsum (Fig. 19): Front margin of rostrum broadly rounded. Margin adorned with papillae, surface with long or short, characteristically branching creases. Bothridium emitting a strong, clearly discernible costula-like keel reaching well beyond



FIGS. 19-20.

Passalozetes hauseri sp. n.

19. dorsal side; 20. ventral side.

transversal lath in front of interlamellar hairs. Behind, and around insertional points of lamellar hairs surface only weakly sculptured. Rostral and lamellar hairs slightly thickened, finely ciliate. Interlamellar and exobothridial hairs thinner, smooth. Sensillus slightly thickened, heavily ciliate with short hairs.

Notogaster: Surface with characteristic, multibranched chitinized papillae, without an indication of a lenticular round spot. In front and at the side of a small but well perceptible tegula present. 10 pairs of thin, though comparatively long notogastral setae present, ps_1 - ps_3 hairs shorter than others. Three pairs of round area porosa developed.

Ventral (Fig. 20). A greater part of surface adorned with a sculpture similar to that of notogaster. In epimeral region it becomes confluent to show longer creases, majority of which run transversally. Especially striking in the one just above the sejugal apodeme. Distal margin of genital plate generally distinctly bordered by a longer crease. Epimeral setae comparatively robust. Epimeral setal formula 3-1-2-3. Genital plate bearing only longitudinally running creases, 5 pairs of short genital setae present. Aggenital and anal hairs also similar, but adanal ones longer. Surface of anal plate similarly sculptured as notogaster. *iad* pori in preanal position.

Legs: Legs with three claws, middle one much shorter, but more robust than lateral ones.

Material examined: Holotype: Hel-75/5; 6 paratypes collected at the same locality. Holotype and 4 paratypes deposited in the Museum d'Histoire naturelle (Genève), 2 paratypes in the Hungarian Natural History Museum, Budapest (No. 116-PO-76).

Remarks: — Thus, the genus *Passalozetes* Grandjean, 1932 includes together with the new one, 4 species. The new species may readily be separated from the other 3 by its lack of a lenticle, by the longer notogastral setae and by the pronounced prodorsal costula. Its closest ally, which also lacks a lenticular spot is *P. inlenticulus* Mihelčič, 1959, but the latter has a smooth surface at the place of the lenticular area (no sculpture present), and the sensillus is ciliated (?) on one side only.

Scheloribates xylobatoides sp. n. (Fig. 21-23)

Measurements: Length: 436-495 μ , width: 218-246 μ .

Prodorsum (Fig. 23): Rostrum broad, rounded. Rostral hairs emitted at apex of prolamella, set wide apart, long, being longer than distance between them. Lamellae narrow, lamellar hairs emitted on them, somewhat longer than the similarly constructed rostral hairs. Sensillus strongly fusiform, thickened part approximately as long as its petiole.

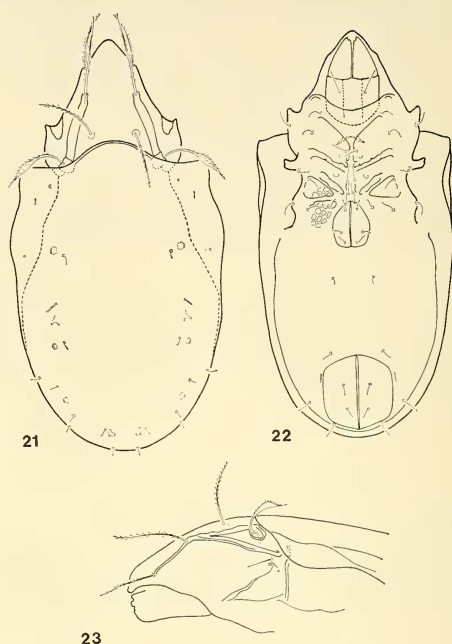
Notogaster (Fig. 21): Pteromorphae small, bending downwards. 10 pairs of very short, thin notogastral setae present, also 4 pairs of sacculi present.

Ventral (Fig. 22): In epimeral region, scattered over the surface of epimeres 1-3 are large, foveolae, over epimere 4 densely set, smaller foveolae are present. Epimeral setal formula 3-1-3-3, all of them clearly discernible. 4 pairs of comparatively long genital, 1 pair of shorter aggenital, 2 pairs of anal and 3 pairs of adanal hairs present, *ad*₃ in preanal position.

Material examined: Holotype: Hel-75/5; 11 paratypes: collected at the same locality. Holotype and 7 paratypes deposited in the Museum d'Histoire naturelle (Genève), 4 paratypes in the Hungarian Natural History Museum, Budapest (No. 117-PO-76).

Remarks. — The genus *Scheloribates* Berlese, 1908, includes a few such narrow species length surpasses at least twice their width. The new species comes close to *Sch. longus* Kilujew, 1963 described from the Caucasus, owing to the fact that the former has long rostral hairs and narrow pteromorphae. The latter species however has a setiform sensillus, scarcely thickened and the dorsosejugal suture is directed striaght forward.

The new species is dedicated to its collector Dr. B. Hauser.



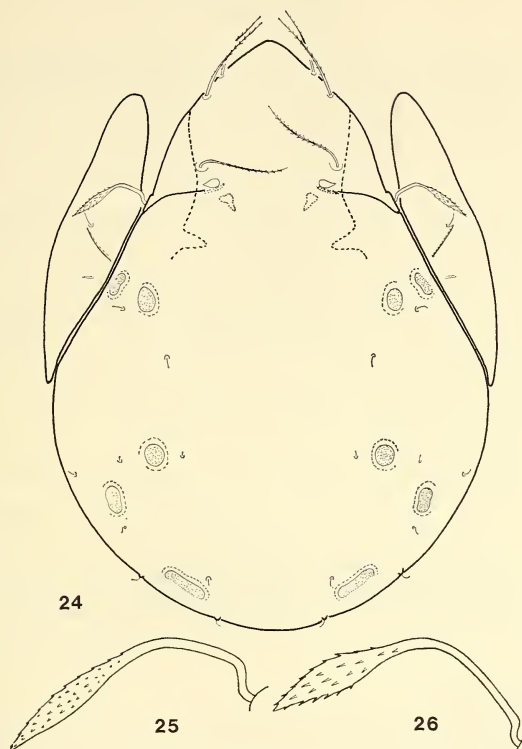
FIGS. 21-23.

Scheloribates xylobatoides sp. n.

21. dorsal side; 22. ventral side; 23. notocephale from lateral side.

***Pilogalumna allifera* (Oudemans, 1919) (Fig. 24-26)**

The specimens from Greece (Fig. 24-25) display great variability, and some of the specimens somewhat differ from the so far published descriptions and figures and from specimens collected in Hungary (Fig. 26). The extreme case is shown in the figure, in which it is readily perceptible that the sensillus is somewhat narrower than the same of the Hungarian specimens, the interlamellar hair comparatively longer, and the A_4 area porosa is also narrower and longer than that of A_3 . On the other hand, several specimens from Greece were identical with OUDEMANS's type, consequently, I refrain from describing this extreme form as a new taxon.



FIGS. 24-26.

Pilogalumna allifera (Oudemans, 1919).

24. dorsal side; 25. sensillus (specimen from Greece); 26. sensillus (specimen from Hungary).

RÉSUMÉ

L'auteur a continué l'étude des prélèvements de terre pris par le Dr. B. Hauser en Grèce. 33 taxa ont été pris en considération dans ce travail dont 6 nouveaux pour la science et 27 nouveaux pour la faune de ce pays. Ces informations géographiques sont particulièrement intéressantes pour les genres *Hauseroplophora* Mah. 1977, *Ghilarovus* Kriv., 1964, *Rhaphigneta* Grandjean, 1966 et pour les espèces *Collohmanna gigantea* Sellnick, 1922, *Haplochthonius simplex* Willmann, 1931 et *Protoplophora bivaginata* Grandjean, 1932.

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